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REMARKS

SUBJECT: Advanced Study Program
Massachusetts Institute of Technology

#1 to #2: Attached forwarded for your information

Att
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cc: OC/TRO; ODP/TRO; OL/TRO; OS/TRO

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
OTE/TSD 826 C of C	Phone No.

FILE: training - 5

Massachusetts Institute of Technology
Center for Advanced Engineering Study
Cambridge, Massachusetts, 02139
Room 9-435

February 10, 1981

STAT [redacted]

Office of Training
Central Intelligence Agency
Washington, D.C. 20505

STAT [redacted]

When the U.S Government Education for Public Management Program was administered by the Civil Service Commission and, more recently, by the Office of Personnel Management, the EPM Program at MIT was part of the Advanced Study Program of the Center for Advanced Engineering Study. It was administered jointly by the Center for Advanced Engineering Study and the Department of Political Science. We still offer the Advanced Study Program and we still offer several academic subjects primarily for participants nominated by the U.S. Government.

The Advanced Study Program enables men and women to spend one or more academic terms at M.I.T. pursuing studies most appropriate to their needs. Each Fellow accepted for the Program arranges an individual program with the help of the faculty. Fellows attend regular graduate and undergraduate subjects and seminars. They attend special subjects and seminars offered by the Center. They may participate in special studies guided by one or more members of the faculty.

I have enclosed a brochure describing the Advanced Study Program and descriptions of the special academic subjects we offer for Fellows.

We also offer a six week review of mathematics during the Summer for incoming Fellows. Calculus Revisited starts in late July and ends at the end of August.

If you send me information on the backgrounds and interests of possible candidates, I will talk with appropriate members of the faculty and report to you on the activities available at MIT to help your candidates meet their objectives.

We hope you will consider nominating one or more candidates for the Program (either the 1981 Fall term or the 1981-82 academic year). I have enclosed several Advanced Study Program application forms.

Please write or call (617-253-6161) if you have any questions.

Sincerely,

Paul E. Brown
Director,
Advanced Study Programs

PEB/ma
Enclosure

Massachusetts Institute of Technology
Center for Advanced Engineering Study
Cambridge, Massachusetts, 02139

U.S. GOVERNMENT PARTICIPATION IN THE ADVANCED STUDY PROGRAM OF THE MIT CENTER FOR ADVANCED ENGINEERING STUDY

When the U.S. Government Education for Public Management Program was administered by the Civil Service Commission and, more recently, by the Office of Personnel Management, the EPM Program at MIT was part of the Advanced Study Program of the Center for Advanced Engineering Study. It was administered jointly by the Center for Advanced Engineering Study and the Department of Political Science. We still offer the Advanced Study Program and we still offer several academic subjects primarily for participants nominated by the U.S. Government. Participants are Fellows of the Advanced Study Program of the MIT Center for Advanced Engineering Study.

The Program

An individual, interdisciplinary course of study is arranged for each Fellow based on his or her background and interests and on the needs of the sponsoring agency. Participants attend regular MIT undergraduate and graduate subjects and seminars and may participate in special studies guided by one or more members of the faculty.

In addition to the nearly one thousand regular subjects offered at MIT, the Center offers the following subjects primarily for Fellows of the Advanced Study Program:

- -Introduction to Operations Research (two-term sequence)
- -Principles of Systematic Policy Analysis (Fall term)
- -Introduction to Probability and Statistics (Fall term)
- -Seminar in Principles of Management for Engineers (two-term sequence)
- -Computer Programming (non-credit, Fall term)
- -Applications of Statistical Analysis (Spring term)

Many Fellows attend Principles of Systematic Policy Analysis, Introduction to Probability and Statistics and Applications of Statistical Analysis as "core" subjects and supplement these with electives that are pertinent to their functional areas of responsibility.

The Center also offers an informal, non-credit seminar each week with guest speakers from MIT and other institutions or talks by the Fellows. Each speaker discusses a topic of current interest in which he or she is an expert.

While regular academic credits are given for regular Institute and special Center subjects, the Program is not designed to result in a degree. Participants are enrolled as special students. They have, however, full student privileges.

For Fellows who wish to review their mathematics, the Center offers a six-week review of mathematics (Calculus Revisited) before the start of the Fall term.

A brochure describing the Advanced Study Program, descriptions of the special subjects offered by the Center, and descriptions of pertinent regular Institute subjects will be sent to prospective applicants.

Prospective applicants should call (617-253-6161) or write to:

Director, Advanced Study Programs
Room 9-435
Center for Advanced Engineering Study
Massachusetts Institute of Technology
Cambridge, MA 02139

Massachusetts Institute of Technology
Center for Advanced Engineering Study
Cambridge, Massachusetts, 02139

CAES 1980 FALL TERM SUBJECTS

6.271 - INTRODUCTION TO OPERATIONS RESEARCH (3-0-9)G
(Mr. Sam CHIU, Operations Research Center)

The time will be arranged to fit the schedules of those who wish to attend Room 9-455

16.701 - PRINCIPLES OF SYSTEMATIC POLICY ANALYSIS (3-0-6)G
(Prof. Amedeo ODONI, Aeronautics and Astronautics Department)

T,Th - 9:00 A.M. - 10:30 A.M. Room 9-455

16.711 - INTRODUCTION TO PROBABILITY AND STATISTICS (3-0-9)G
(Prof. Nawal TANEJA, Aeronautics and Astronautics Department)

T,Th - 10:30 A.M. - 12 Noon Room 9-455

16.602 - SEMINAR IN PRINCIPLES OF MANAGEMENT FOR ENGINEERS I (3-0-6)G
(Dr. James KNEAFSEY, Aeronautics and Astronautics Department)

T,Th - 3:30 P.M. - 5:00 P.M. Room 9-455

CAES SEMINARS

Tuesdays or Wednesdays - 4:00 P.M. to 5:00 P.M.
Room 9-450

COMPUTER PROGRAMMING

(Time to be arranged at the beginning of the term)

a) A series of approximately eight one hour lectures on the use of our Apple Micro computer and on the BASIC programming language

b) A non-credit subject to teach the PASCAL programming language. (Many computer experts predict that PASCAL will replace FORTRAN for engineering applications).

6.271 INTRODUCTION TO OPERATIONS RESEARCH

Prereq: Permission of the Instructor

(3-0-9)G

I. Objective:

The Introduction to Operations Research course is designed to provide understanding of Management Science and Operations Research as applied to managerial problem solving. The course will stress problem identification, model formulation, assessment of assumptions and data requirements, solution techniques, and evaluation of model-based recommendations. This is a two semester course and the topics to be covered are probability, statistical concepts, search theory, mathematical programming, decision analysis, queuing theory and simulation. The computer will be used to apply the various methodologies to selective problems.

II. Format:

The course consists of a mix of lectures, discussion, case analyses, problem-solving and term project in order to integrate operations research methodologies with practical relevance. Problem sets will be distributed to reinforce understanding of the material covered and how to apply it. A separate handout describes the term project requirement.

16.701 PRINCIPLES OF SYSTEMATIC POLICY ANALYSIS

Prereq: Permission of the Instructor

(3-0-6)G

An introduction to the systematic analysis of policy choices, with emphasis on the approaches, concepts, and techniques employed. Main focus on cost-effectiveness as a means of choosing between major project alternatives. Study of time-streams of benefits and costs. Pertinent operations research techniques including linear and dynamic programming, analysis of uncertainty, project scheduling. Introduction to the basic ideas of decision analysis and utility theory. A few case studies will also be discussed.

Prof. Amedeo R. Odoni
Room 33-404
Ext. 3-7439

16.711 INTRODUCTION TO PROBABILITY AND STATISTICS

Prereq: Permission of the Instructor

(3-0-9)G

Introduction to probabilistic concepts and statistical methods with strong emphasis on applications to management, engineering, and administrative problems. Elements of probability theory will consist of sample space and points, probability rules and use of binomial, normal and poisson distribution tables. Basic material on statistics consist of sampling theory, estimation, hypothesis testing and regression analysis. Other topics include introduction to statistical data analysis for managerial decision-making.

Prof. Nawal K. Taneja
Room 33-408
Ext. 3-7504

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16.602 SEMINAR IN PRINCIPLES OF MANAGEMENT FOR ENGINEERS - I
FALL 1980

16.703 SEMINAR IN PRINCIPLES OF MANAGEMENT FOR ENGINEERS - II
(INTRODUCTION TO AEROSPACE MANAGEMENT)
SPRING 1981

Prereq: Permission of the Instructor

(3-0-6)G

This subject identifies and analyzes the major principles of modern corporate and government agency management related to the aerospace and air transportation industry. It is designed to provide technical and scientific professionals with an understanding of what management entails and how it is accomplished. The material should help students to analyze and evaluate the data, reports, and recommendations on which managerial decisions can be based. Lectures are supplemented with seminar presentations by speakers from the industrial and financial communities and government agencies.

Dr. James T. Kneafsey
Room 9-334
Ext. 3-7342

OUTLINE:

I. INTRODUCTION TO PRINCIPLES OF MANAGEMENT

II. PRINCIPLES OF FINANCIAL AND MANAGEMENT ACCOUNTING

- Corporations, Partnerships, and Proprietorships
- Valuation of Corporations
- Depreciation and Taxation
- Equity and Debt Capital
- Capital Budgeting

III. PRINCIPLES OF INVESTMENT

- Money Markets
  - Commercial Investments
  - Government Securities
  - Sources and Uses of Funds in the Business Sector of the Economy
  - Monetary Theory and Policies
  - The Role of Government Agencies
- Capital Markets
  - Long-term Debt Instruments
  - Real Estate
  - The Marketing of Public Debt Issues
  - Equities Markets
  - Money Supply Consideration
    - Measurement
    - Inflation
    - Velocity
- The Role of the Small Investor
  - Speculation and Hedging
  - Arbitrage
  - Option Markets
  - Secondary Securities Markets
  - Commodity Markets
    - Metals, Foods, Grains, Meats, Etc.
    - Predictors of the WPI and the CPI

IV MANAGERIAL ECONOMICS

- Macroeconomic Applications
  - Monetary Policy and Inflation
  - Fiscal Policy and Employment
  - Forecasting

- Microeconomic Applications
  - Supply and Demand Issues
  - Competition
  - Industrial Market Structures
    - Concentration
    - Barriers to Entry
    - Product and Service Differentiation
  - Industrial Performance
    - Rates of Return
    - Market Behavior and Performance
    - Growth and Innovation

- Issues of Ethics and the Environment
  - Monopoly Power
  - Antitrust
  - Diversification and Conglomeration
  - The Multinationals
  - Corporate Images
  - Bureaucratic Innovations
  - The Functioning of the Government Sector

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OUTLINE: 16.703

I. INTRODUCTION AND SUMMARY OF 16.602

II. MARKETING

- ° Market Positioning
- ° Market Institutions
- ° Pricing Problems and Policies
- ° Forecasting Issues
- ° Advertising Management
  - Communication, Persuasion and Market Processes
  - Effects on Competition: Theory and Measurement
- ° Consumer Behavior
- ° Research and Efficiency in Marketing

III. QUANTITATIVE METHODS IN MANAGEMENT

- ° General Uses of Quantitative and Nonquantitative Models
- ° Process and Manpower Planning, Ergonomics and Work Measurement
- ° Control Systems and Inventory Analysis
- ° Simulation Models
- ° Statistical Data Analysis

IV. INDUSTRIAL ORGANIZATION AND PUBLIC POLICY

- ° Regulating the Product: Quality and Variety
- ° Competition in the U.S. Energy Industry
- ° Input Prices and Their Future Implications
- ° Government and Enterprise
- ° International Competition in Factor and Product Markets
- ° Organizational Theories: National and Multinational
- ° The Entrepreneur of the Future

V. SUMMARY